AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A wavelength filter comprising:

a solid material that ~~transmits a light;~~ is optically transparent and includes a pair of ~~flat planes formed on the sold material~~ planar surfaces substantially ~~in~~ parallel ~~with~~ to each other; and

a supporting member that supports the solid material on a ~~plane~~ planar surface of the solid material, other than the pair of ~~flat planes with an adhesive agent~~ planar surfaces, the supporting member having ~~a~~ rigidity ~~stronger~~ higher than that of the solid material, wherein

~~the light is resonated between the pair of flat planes,~~

~~the wavelength filter selects a wavelength that is determined by an optical length between the pair of flat planes, and~~

the solid material is a birefringent material ~~of which~~ having an optical axis that makes a predetermined angle with respect to a normal to the pair of ~~flat planes~~ planar surfaces, and

the wavelength filter selects light having a wavelength that is determined by optical length between the pair of planar surfaces, by resonating the light between the pair of planar surfaces.

2. (Currently Amended) The wavelength filter according to claim 1, wherein the predetermined angle ~~between the normal to the pair of flat planes and the optical axis~~ is set so that a temperature coefficient of the optical length ~~between the pair of flat planes~~ has a predetermined value ~~in a state in which~~ when the birefringent material is fixed on the supporting member.

3. (Currently Amended) The wavelength filter according to claim 2, wherein the predetermined angle ~~between the normal to the pair of flat planes and the optical axis~~ is set so that ~~an~~ absolute value of a sum of (i) a product of ~~a~~ (a) difference between linear expansion coefficients of the birefringent material and the supporting member and (b) refractive index of the birefringent material, ~~a~~ (ii) thermooptical coefficient of the birefringent material, and ~~a~~ (iii) change of refractive index due to a thermal strain between the supporting member and the birefringent material is minimized.

4. (Currently Amended) The wavelength filter according to claim 3, wherein the birefringent material is ~~any one~~ selected from the group consisting of an α-BBO crystal, an $LiIO_3$ crystal, a $CaCo_3$ crystal, and a β-BBO crystal.

5. (Currently Amended) The wavelength filter according to claim 4, wherein light incident on the birefringent material ~~uses a~~ has arbitrary polarization ~~asserted~~ along an ordinary light axis, and,

when the birefringent material is a $CaCo_3$ crystal, ~~an~~ angle ~~of an~~ between the optical axis ~~with respect to a~~ of the $CaCo_3$ crystal and the light axis is set to ~~a vicinity of~~ approximately 67 degrees, and,

when the birefringent material is an α-BBO crystal, ~~an~~ the angle ~~of an optical axis with respect to a light axis~~ is set to ~~a vicinity of~~ approximately 90 degrees.

6. (Currently Amended) A wavelength ~~monitoring apparatus~~ monitor that detects ~~a~~ wavelength of ~~a~~ laser light output from a semiconductor laser, the wavelength ~~monitoring apparatus~~ monitor comprising:

a wavelength filter that includes a solid material that ~~transmits the laser light,~~ is optically transparent and includes a pair of ~~flat planes formed on the sold material~~ planar surfaces substantially ~~in~~ parallel ~~with~~ to each other~~, the wavelength filter selecting a wavelength determined by an optical length between the pair of flat planes in a cycle by resonating the laser light between the pair of flat planes~~;

a wavelength detecting unit that ~~measures an~~ detects emission wavelength of the laser light based on ~~a~~ transmission light ~~from~~ transmitted by the wavelength filter; and

a supporting member that supports the wavelength detecting unit and the wavelength filter on a ~~plane~~ planar surface of the wavelength filter, other than the pair of ~~flat planes with an adhesive agent~~ planar surfaces, the supporting member having a rigidity ~~stronger~~ higher than that of the solid material, wherein the solid material is a birefringent material ~~of which~~ having an optical axis that makes a predetermined angle with respect to a normal to the pair of ~~flat planes~~ planar surfaces.

7. (Currently Amended) The wavelength ~~monitoring apparatus~~ monitor according to claim 6, wherein

the laser light output from the semiconductor laser is polarized in one direction, and

the predetermined angle ~~between the normal to the pair of flat planes and the optical axis~~ is set so that ~~a~~ temperature coefficient of the optical length ~~between the pair of flat planes~~ has a predetermined value ~~in a state in which~~ when the birefringent material is fixed on the supporting member.

8. (Currently Amended) The wavelength ~~monitoring apparatus~~ monitor according to claim 7, wherein the predetermined angle ~~between the normal to the pair of flat planes and the optical axis~~ is set so that ~~an~~ absolute value of a sum of (i) a product of ~~a~~ (a) difference between linear expansion coefficients of the birefringent material and the supporting member and (b) refractive index of the birefringent material, ~~a~~ (ii) thermooptical coefficient of the birefringent material, and ~~a~~ (iii) change of refractive index due to ~~a~~ thermal strain between the supporting member and the birefringent material is minimized.

9. (Currently Amended) The wavelength ~~monitoring apparatus~~ monitor according to claim 8, wherein the birefringent material forming the wavelength filter is ~~any one~~ selected from the group consisting of an α-BBO crystal, an $LiIO_3$ crystal, a $CaCo_3$ crystal, and a β-BBO crystal.

10. (Currently Amended) The wavelength ~~monitoring apparatus~~ monitor according to claim 9, wherein light incident on the birefringent material ~~uses a~~ has arbitrary polarization ~~assorted~~ along an ordinary light axis, and,

when the birefringent material is a $CaCo_3$ crystal, ~~an~~ angle ~~of an~~ between the optical axis ~~with respect to a~~ of the $CaCo_3$ crystal and the light axis is set to ~~a vicinity of~~ approximately 67 degrees, and,

when the birefringent material an is α-BBO crystal, ~~an~~ the angle ~~of an optical axis with respect to a light axis~~ is set to ~~a vicinity of~~ approximately 90 degrees.

11. (Currently Amended) The wavelength ~~monitoring apparatus~~ monitor according to claim 6, further comprising a lens that adjusts ~~a~~ spot size of the laser light output from the semiconductor laser, and that outputs the laser light with the spot size adjusted to the wavelength filter.

12. (Currently Amended) The wavelength ~~monitoring apparatus~~ monitor according to claim 6, wherein the wavelength detecting unit includes

a first photodetector that detects ~~a~~ transmission light ~~from~~ transmitted by the wavelength filter and that outputs a first detecting signal;

a second photodetector that directly detects the laser light output from the semiconductor laser and that outputs a second detecting signal; and

a wavelength detector that detects ~~an~~ the emission wavelength of the laser light ~~using~~ based on a ratio of the first detecting ~~signals from the first photodetector~~ signal and the second ~~photodetector~~ detecting signal.